

CLAIMS

What is claimed is:

1. A toolholder, comprising:
a body portion;
a plurality of support member assemblies mounted to the body portion, each support member assembly including a bore; and
5 a plurality of insert-receiving cartridges, each cartridge including a shank capable of being removably received in a bore of the support member assembly by an actuator bolt and an actuator nut, each insert-receiving cartridge including a pocket for receiving a cutting insert,
wherein rotation of the actuator bolt causes the insert-receiving cartridge to be
10 secured to or removed from the support member.
2. The toolholder according to Claim 1, wherein the support member assembly is radially mounted on a side periphery of the body portion.
3. The toolholder according to Claim 1, wherein the support member assembly is horizontally mounted on an end surface of the body portion.
4. The toolholder according to Claim 1, wherein the toolholder includes a plurality of support member assemblies and a corresponding number of insert-receiving cartridges and cutting inserts.
5. The toolholder according to Claim 4, wherein one of the insert-receiving cartridges and corresponding cutting insert forms a cutting tool that is different than another one of the insert-receiving cartridges and corresponding cutting insert.
6. The toolholder according to Claim 5, wherein the cutting tool is one of a turning tool, a grooving tool, and a profiling tool.
7. The toolholder according to Claim 4, wherein one of the plurality of cutting inserts is capable of engaging a workpiece by rotating the toolholder about a longitudinal axis of the toolholder.

8. A toolholder, comprising:
a body portion;
a plurality of support member assemblies mounted to the body portion, each support member assembly including a bore; and
5 a plurality of insert-receiving cartridges, each insert-receiving cartridge including a shank capable of being removably received in the bore of the support member, each insert-receiving cartridge including a pocket,
wherein a first cutting tool is formed by one of the plurality of cutting inserts mounted on one of the plurality of insert-receiving cartridges, the first cutting tool
10 engaging a workpiece, and
wherein a second cutting tool is formed by a different one of the plurality of cutting inserts mounted on a different one of the plurality of insert-receiving cartridges, and
wherein the second cutting tool is capable of engaging the workpiece by
15 rotating the toolholder about a longitudinal axis of the toolholder.
9. The toolholder according to Claim 8, wherein the shank is removably received in the bore of the support member assembly by an actuator bolt and an actuator nut.
10. The toolholder according to Claim 9, wherein rotation of the actuator bolt causes the insert-receiving cartridge to be secured to or removed from the support member assembly.
11. The toolholder according to Claim 8, wherein the support member assembly is radially mounted on a side periphery of the body portion.
12. The toolholder according to Claim 8, wherein the support member assembly is horizontally mounted on an end surface of the body portion.
13. The toolholder according to Claim 8, wherein the first cutting tool is one of a turning tool, a grooving tool, and a profiling tool.

14. A machine tool, comprising:
a shank and a shank jaw; and
a toolholder rotatably mounted in the shank jaw, the toolholder comprising:
a body portion;
5 a plurality of support member assemblies mounted to the body portion,
each support member assembly including a bore; and
a plurality of insert-receiving cartridges, each insert-receiving cartridge
including a shank capable of being removably received in the bore of the support
member, each insert-receiving cartridge including a pocket,
10 wherein a first cutting tool is formed by one of the plurality of cutting inserts
mounted on one of the plurality of insert-receiving cartridges, the first cutting tool
engaging a workpiece, and
wherein a second cutting tool is formed by a different one of the plurality of
cutting inserts mounted on a different one of the plurality of insert-receiving
15 cartridges, and
wherein the second cutting tool is capable of engaging the workpiece by
rotating the toolholder about a longitudinal axis of the toolholder.
15. The machine tool according to Claim 14, wherein the shank is
removably received in the bore of the support member assembly by an actuator bolt
and an actuator nut.
16. The machine tool according to Claim 15, wherein rotation of the
actuator bolt causes the insert-receiving cartridge to be secured to or removed from
the support member.
17. The machine tool according to Claim 14, wherein the support member
assembly is radially mounted on a side periphery of the body portion.
18. The machine tool according to Claim 14, wherein the support member
assembly is horizontally mounted on an end surface of the body portion.
19. The machine tool according to Claim 14, wherein the first cutting tool
is one of a turning tool, a grooving tool, and a profiling tool.

20. A toolholder capable of being fixed in a plurality of static positions during a machining operation of a rotating workpiece, the toolholder comprising:
5 a body portion including a plurality of cutting inserts;
wherein the toolholder moves between fixed static positions by rotation and translation at least in an axis perpendicular to a normal cutting plane (Y-axis) of the machine tool to individually present each cutting insert to the rotating workpiece during the machining operation.
21. The toolholder according to Claim 20, wherein the support member assembly is radially mounted on a side periphery of the body portion.
22. The toolholder according to Claim 20, wherein the support member assembly is horizontally mounted on an end surface of the body portion.
23. The toolholder according to Claim 20, wherein the toolholder includes a plurality of support member assemblies and a corresponding number of insert-receiving cartridges and cutting inserts.
24. The toolholder according to Claim 23, wherein one of the insert-receiving cartridges and corresponding cutting insert forms a cutting tool that is different than another one of the insert-receiving cartridges and corresponding cutting insert.
25. The toolholder according to Claim 24, wherein the cutting tool is one of a turning tool, a grooving tool, and a profiling tool.
26. The toolholder according to Claim 1, wherein the insert-receiving cartridges are positioned such that the longitudinal axis L' of the cartridges are nonparallel.
27. The toolholder according to Claim 20, wherein the cutting inserts each include a rake face, wherein the rake face of each insert is positioned such that each rake face is nonparallel.